IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:	**Group Art Unit:** 3739
Michael P. WALLACE	**Confirmation No.:** 2638
Serial No.: 10/669,203	**Examiner:** Roane, Aaron F.
Filed: September 23, 2003	
For: ENERGY ACTIVATED VASO-OCCLUSIVE DEVICES	

APPEAL BRIEF - CFR 41.37

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This Appeal Brief is being filed in furtherance of the Notice of Appeal, filed September 30, 2008. It contains the following items in the order indicated below, as required by C.F.R. §41.37:

I. Real Party in Interest
II. Related Appeals and Interferences
III. Status of Claims
IV. Status of Amendments
V. Summary of Claimed Subject Matter
VI. Grounds of Rejection to be Reviewed on Appeal
VII. Arguments
VIII. Claims Appendix
IX. Evidence Appendix
X. Related Proceedings Appendix

I. Real Party in Interest

The real party in interest in this appeal is Boston Scientific Scimed, Inc. (formerly Scimed Life Systems, Inc.), a corporation organized under the laws of Minnesota.

II. Related Appeals and Interferences

There are no appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal.

III. Status of Claims

This application includes claims 1-4, 6-14, 16, 18-19, 25-26 and 37-42. Pending claims 1-3, 6-8, 10-13, 18, 19, 25 and 37-39, 41 and 42 stand rejected. According to the final Office Action claim 40 is also rejected, however, claim 40 is withdrawn and therefore it is not included in the claim involved in the appeal. Claims 4, 9, 14, 16, 26 and 40 are withdrawn and claims 5, 15, 17, 20-24, 27-36 are cancelled, leaving no claims allowed. The claims on appeal are claims 1-3, 6-8, 10-13, 18, 19, 25, 37-39, 41 and 42.

IV. Status of Amendments

All amendments have been entered.

V. Summary of Claimed Subject Matter

Although the invention should not be limited to the preferred embodiments described in the specification, the invention will now be described in terms of certain embodiments in order to aid in understanding the invention.

Independent claim 1 is directed to a vaso-occlusive device 20, 100 (page 3, lines 2-24, page 5, lines 5, 8, page 7, line 10, page 9, line 18, page 11, line 7, page 12, line 20, page 13, lines 10-25, page 14, line 9, page 15, line 8, page 16, lines 1-2, page 16, lines 5-10 and Figs. 1A-B, 2A-B, 3A-C, 4A-B) for treating a site 92 (page 5, lines 1-5 &12, page 12, line 18, page 13, line 12, page 15, line 3 and Figs. 1B, 3A-C) within a patient's vasculature 94 (page 5, line 4, page 13, line 9 and Figs. 1B, 3A-C). The vaso-occlusive device comprising a first material 24 (page 6, line 8 to page 7, line 3, Figs. 5A, 5D) which, if the device 20,100 is detached from a delivery catheter 30 (page 5, line 6, page 13, lines 4-13, page 14, line 5 and Figs. 1B, 3A-C) and implanted at a treatment site in the patient's vasculature 92, may be heated by application of energy transmitted by an energy emitting element 40 (page 5, line 6, page 8, line 14, page 10, lines 13-15, page 19, lines 3-5, Figs. 1A, 3C) located external to the patient 90 (page 3, lines 1-5, page 14, lines 4-7, page 18, lines 17-21, page 19, lines 13-17, Figs 1A, 3C); and a bioactive agent 28 (page 8, line 22 to page 9, line 20, page 19, line 23, and Figs. 5F-H) that, if the device 20, 100 is detached from a delivery catheter 30 and implanted at a treatment site 92 in the patient's vasculature 94 (page 5, lines 1-5, page 13, lines 16-18, Fig. 3B), is released (page 3, line 18, page 14, line 22, page 17, line 16, Fig. 3C) from the device 20, 100 into the treatment site 92 upon heating of the device 20, 100 by application of energy transmitted by said external energy emitting element 40 to heat the first material 24 (page 6, line 8 to page 7, line 3).

Independent claim 18 is directed to a vaso-occlusive device 20, 100 (page 3, lines 2-24, page 5, lines 5, 8, page 7, line 10, page 9, line 18, page 11, line 7, page 12, line 20, page 13, lines 10-25, page 14, line 9, page 15, line 8, page 16, lines 1-2, page 16, lines 5-10 and Figs. 1A-B, 2A-B, 3A-C, 4A-B) for treating a site 92 (page 5, lines 1-5

&12, page 12, line 18, page 13, line 12, page 15, line 3 and Figs. 1B, 3A-C) within a patient's vasculature 94 (page 5, line 4, page 13, line 9 and Figs. 1B, 3A-C). The vaso-occlusive device comprising a helically wound coil 22, 102 (page 5, lines 8-21, page 6, lines 8-9, page 7, lines 4-21, page 16, lines 8-10, Figs. 2A-B, 4A-B) comprising a highly conductive material (page 12, lines 3-4, page 17, line 3) and forming a lumen (page 16, line 20, Figs. 4A-B); a filament 108, 114 (page 6, line 1, page 7, lines 4-8, page 16, lines 17-19, page 17, line 5, page 18, lines 6-14, Figs. 4A-B) at least partially positioned in the lumen (page 16, lines 20-24, Figs. 4A-B), the filament 108, 114 comprising a ferrous material 24 (page 3, line 7, page 6, line 8 to page 7, line 3, page 7, lines 12-14, page 11, line 17, page 16, lines 20-21, page 17, line 5, page 18, lines 6-10), such that, if the device 20, 100 is detached from a delivery catheter 30 and implanted at a treatment site 92 in the patient's vasculature 94 (page 5, lines 1-5, page 13, lines 16- 18, Fig. 3B) and exposed to a pulsed magnetic field 48 (page 3, lines 8-9, page 10, line13 to page 11, line 6, page 14, lines 10-15, page 17, lines 1-2, Figs. 1A, 3C) applied from an energy emitting element 40 located outside the body 90 (page 3, lines 1-5, page 14, lines 4-7, Figs 1A, 3C), the ferrous material 24 (page 3, line 7, page 6, line 8 to page 7, line 3, page 7, lines 12-14, page 11, lines 3-6 and line 17) is heated (page 11, line 18 to page 12-line 17, page 14, lines 10-15); and a bioactive agent 28 (page 8, line 22 to page 9, line 20, page 19, line 23, and Figs. 5F-H) that, if the device 20, 100 is detached from a delivery catheter 30 and implanted at a treatment site 92 in the patient's vasculature 94 (page 5, lines 1-5, page 13, lines 16- 18, Fig. 3B), is released (page 3, line 18, page 14, line 22, page 17, line 16) from the device 20, 100 upon heating (page 10, lines 1-12) of the device 20, 100 by application of said pulsed magnetic field 48 (page 3, lines 8-9, page 10, lines 15-18, page 11, lines 3-6, Fig. 1A).

Independent claim 37 is directed to a vaso-occlusive device 20, 100 (page 3, lines 2-24, page 5, lines 5, 8, page 7, line 10, page 9, line 18, page 11, line 7, page 12, line 20, page 13, lines 10-25, page 14, line 9, page 15, line 8, page 16, lines 1-2, page 16, lines 5-10 and Figs. 1A-B, 2A-B, 3A-C, 4A-B) for treating a site 92 (page 5, lines 1-5 &12, page 12, line 18, page 13, line 12, page 15, line 3 and Figs. 1B, 3A-C) within a patient's vasculature 94 (page 5, line 4, page 13, line 9 and Figs. 1B, 3A-C). The vaso-occlusive device comprising a first material 24 (page 6, line 8 to page 7, line 3, Figs. 5A, 5D) which, if the device 20,100 is detached from a delivery catheter 30 (page 5, line 6, page 13, lines 4-13, page 14, line 5 and Figs. 1B, 3A-C) and implanted at a treatment site in the patient's vasculature 92, may be heated by application of energy transmitted by an energy emitting element 40 (page 5, line 6, page 8, line 14, page 10, lines 13-15, page 19, lines 3-5, Figs. 1A, 3C) located external to the patient 90 (page 3, lines 1-5, page 14, lines 4-7, page 18, lines 17-21, page 19, lines 13-17, Figs 1A, 3C); and a bioactive agent 28 (page 8, line 22 to page 9, line 20, page 19, line 23, and Figs. 5F-H) that, if the device 20, 100 is detached from a delivery catheter 30 and implanted at a treatment site 92 in the patient's vasculature 94 (page 5, lines 1-5, page 13, lines 16-18, Fig. 3B), is activated (page 3, line 19, page 10, line 11, page 14, lines 5-7 and 21-23, page 17, line 16, Figs. 1A, 3C) upon heating of the device 20, 100 by application of energy transmitted by said external energy emitting element 40 to heat the first material 24 (page 6, line 8 to page 7, line 3).

Independent claim 42 is directed to a vaso-occlusive device 20, 100 (page 3, lines 2-24, page 5, lines 5, 8, page 7, line 10, page 9, line 18, page 11, line 7, page 12, line 20, page 13, lines 10-25, page 14, line 9, page 15, line 8, page 16, lines 1-2, page

16, lines 5-10 and Figs. 1A-B, 2A-B, 3A-C, 4A-B) for treating a site 92 (page 5, lines 1-5 &12, page 12, line 18, page 13, line 12, page 15, line 3 and Figs. 1B, 3A-C) within a patient's vasculature 94 (page 5, line 4, page 13, line 9 and Figs. 1B, 3A-C). The device 20, 100 comprising a first material 24 (page 6, line 8 to page 7, line 3, Figs. 5A, 5D) which, if the device 20, 100 has been detached from a delivery catheter 30 and deployed at a treatment site 92 in the patient's vasculature 94 (page 5, lines 1-5, page 13, lines 16- 18, Fig. 3B), may be heated (page 10, lines 1-12, page 11, line 18 to page 12-line 17) by application of energy transmitted by an energy emitting element 40 (page 5, line 6, page 8, line 14, page 10, lines 13-15, page 19, lines 3-5, Figs. 1A, 3C) located external to the patient 90 (page 3, lines 1-5, page 14, lines 4-7, page 18, lines 17-21, page 19, lines 13-17, Figs 1A, 3C); and a second material 26 (page 6, lines 8-9, page 8, lines 15-19, Figs. 5B, 5E) having a melting or glass transition temperature greater than body temperature (page 8, lines 11-14), but less than a temperature reached by the device 20, 100 if the first material 24 is heated (page 10, lines 1-12, page 11, line 18 to page 12-line 17) by energy transmitted by the external energy emitting element 40, wherein the second material 26 is embedded (page 3, line 10, page 7, lines 12-14, page 12, lines 20-22, page 17, lines 9-10, Fig. 5H) in one or more portions of the device 20, 100, such that, if the device 20, 100 is detached from a delivery catheter 30 and implanted at the treatment site 92 (page 5, lines 1-5, page 13, lines 16- 18, Fig. 3B) when heated (page 10, lines 1-12, page 11, line 18 to page 12-line 17) by energy transmitted by the external energy emitting element 40, and thereafter allowed to cool (page 15, line 21) at the treatment site 92, the one or more portions are at least partially melted (page 11, line 11, page 14, line 22, page 15, lines 15-21, page 17, lines 9-11) and fused together (page 3, lines 20-23, page 15, lines 21-23, page 17, line 12) to

thereby stabilize the vaso-occlusive device 20, 100 in a deployed configuration (page 16, lines 2-3).

VI. Grounds of Rejection to be Reviewed on Appeal

Whether claims 1-3, 6-8, 10-13, 18, 19, 25, 37-39, 41 and 42 are unpatentable under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 5,853,418 ("Ken"), in view of U.S. Patent No. 6,238,421 ("Günther"), in further view of U.S. Patent No. 6,280,457 ("Wallace"), and in further view of U.S. Patent No. 6,024,754 ("Engelson").

VII. Arguments

Regarding the claims on appeal, the Examiner set forth obviousness rejections under 35 U.S.C. § 103(a) of the claims 1-3, 6-8, 10-13, 18, 19, 25, 37-39, 41 and 42, as will be described in further detail below.

The Supreme Court set forth the basic test for obviousness in Graham v. John Deere, 383 U.S. 1, 148 (1966). Additionally, the Supreme Court has addressed the issue of obviousness in KSR International vs. Teleflex Inc., 127 S. Ct. 1727 (2007), in which the Court reiterated the requirement that a rejection on "obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness", and further that a "fact finder should be aware, of course, of the distortion caused by **hindsight bias** and must be cautious of arguments reliant upon ex parte reasoning". While not specifically addressed by the Supreme Court in KSR, for a combination of prior art references to render a claimed device obvious, a device resulting from the combination of prior art references must still consider **all** of the limitations of that claim (See MPEP §2143).

Further, the Supreme Court in KSR, stated: "A patent composed of several elements is not proven obvious merely by demonstrating that each element was, independently, known in the prior art...it can be important to identified a reason that would have prompted a person of ordinary skill in the relevant field to combined the elements in the way the claimed new invention does".

Additionally, in a recent precedential decision, Ex parte WHALEN, Board of Patent Appeals and Interferences, published July 23, 2008, the Board reversed an Examiner's claim rejections based on obviousness, since the Examiner had not set forth "an adequate basis – based on evidence or scientific reasoning" to support the rejections. The Board cited the Supreme Court decision in KSR, and agreed that "obviousness cannot be proven merely by showing that the elements of a claimed device were known in the prior art; it must be shown that those of ordinary skill in the art would have had some 'apparent reason to combine the known elements in the fashion claimed'" (citing KSR at 1741).

The above analyses should be applied to determine whether or not the cited references render the appealed claims obvious. For the reasons that follow, Appellant respectfully submits the appealed claims are not obvious in view of the cited references.

Rejection of claims 1-3, 6-8, 10-13, 18, 19, 25, 37-39, 41 and 42 under 35 U.S.C. §103(a) over Ken in view of Günther, in further view of Wallace, and in further view of Engelson.

All pending claims (1-3, 6-8, 10-13, 18, 19, 25, 37-39, 41 and 42) stand rejected under 35 U.S.C. 103(a), over the combination of four, separate references. According to the Final Office Action, "...at the time of the invention it would have been obvious to one of ordinary skill in the art to modify the invention of Ken et al., as taught by Günther

et al. [et al.], to provide heating energy from outside/external source as an alternate means of heating the implantable metallic coil, and as further taught by Wallave et al., to provide the coil with a polymeric coating having a bioactive agent in order to improve the vaso-occlusion system, and still as further taught by Engelson, to provide the coil with a polymeric coating that is released from the coil upon heating in order to further enhance the treatment of aneurysms." (Page 4).

Appellant respectfully submits that the above quoted statement disregards key aspects of the actual disclosures of the references being combined. Further, the teachings of these references are not properly combinable to achieve the claimed inventions, and even if these four references could somehow be properly combined, their combination still does not achieve the elements required by the claims.

A. Claims 1, 18 and 37

Independent claims 1 and 37 each recite a vaso-occlusive device for treating a site within a patient's vasculature, comprising a first material which, if the device is detached from a delivery catheter and implanted at a treatment site, may be heated by application of energy transmitted by an energy emitting element located external to the patient, and a bioactive agent which, if the device is detached from a delivery catheter and implanted at a treatment site, is released (claim 1) or activated (claim 37) from the device upon heating the device by application of energy transmitted by said external energy emitting element.

Independent claim 18 recites a vaso-occlusive device for treating a site within a patient's vasculature, comprising a helically wound coil comprising a highly conductive material and forming a lumen; a filament at least partially positioned in the lumen, the filament comprising a ferrous material, such that, if the device is detached from a

delivery catheter and implanted at a treatment site in the patient's vasculature and exposed to a pulsed magnetic field applied from an energy emitting element located outside the body, the ferrous material is heated; and a bioactive agent that, if the device is detached from a delivery catheter and implanted at a treatment site in the patient's vasculature, is released from the device upon heating of the device by application of said pulsed magnetic field.

In contrast, Ken discloses a vaso-occlusive coil with a stretch resistant member disposed within its lumen. According to the Office Action (page 3) the stretch resistance member (108, 214) of Ken is considered to be a "filament/heating member". However, the stretch resistance member of Ken operates only to prevent stretching of the vaso-occlusive coil by having the stiffness necessary to hold the coil in place after delivery into a treatment site (abstract, Col. 9, lines 40-43). Although the stretch-resisting member of Ken may "optionally contain **modest** amounts of iron", (Col. 5, lines 1-2), there is no disclosure or suggestion in Ken that such "modest amounts of iron" are provided in adequate concentration to cause the stretch-resisting filament to act as a heating member if exposed to energy transmitted by external energy emitting element after the coil is detached from a delivery catheter and implanted at a treatment site capable of releasing or activating a bioactive agent, as required by independent claims 1, 18, and 37.

According to the Office Action, "iron, in any amount, large or small, heats ups when exposed to an alternating magnetic field" (page 6). This is a mere supposition, which is not supported by any scientific or evidentiary basis, especially considering that the claims require the heat to be sufficient to release or activate the bioactive agent. For at least the above reasons, Ken fails to disclose a vaso-occlusive device having a

first material that may be heated after the device is detached from a delivery catheter to release or active a bioactive agent.

Günther discloses an induction heating device outside a patient's body that heats a metallic implant, thereby in the body raising the temperature of living cells that immediately surround the implant causing shrinkage, slowing or stopping cell generation in the body (Col. 3, lines 1-7, lines 41-43). Even if Günther may be properly combined with Ken, such combination would not teach or suggest that the coil of Ken would be made of a "first" material that acts as a heating member due to the "modest amounts of iron" of the stretch resistance member of Ken, despite the application of induction heating of an implant from outside the body. Thus, the disclosure of Günther does not supplement the failed teaching of Ken.

Wallace discloses a vaso-occlusive device comprising an inner core covered with a polymeric fiber, wherein the polymeric fiber **covering** or wrapping may be used as a carrier for bioactive molecules (Col 12, lines 4-14). There is no disclosure or suggestion in Wallace that the bioactive molecules carried by the polymeric fiber covering the coil could or would be released or activated by the application of heat to a first material of the coil. In particular, there is no teaching or suggestion in Wallace that the bioactive materials carried by the polymeric fiber would or could be released by heating the "modest amounts of iron" in the stretch-resisting member of Ken caused by energy transmitted by external energy emitting element of Günther. Therefore, there would be no reason to attempt to heat the device of Ken after the coil is detached, because there is no disclosure in Ken that such heating would be successful, and there is no teaching in Wallace that the bioactive agent carried by the fiber covering is released or activated by heat.

Engelson discloses a light-emitting device that "has been introduced into the region just outside the mouth of the aneurysm" (Col. 8, lines 48-51) in order to **"simply reform"** polymers to adhere to each other and stabilize a vaso-occlusive device in an aneurysm (Col. 8, line 54, Col. 9, lines 26-27). The Office Action states that Engelson discloses a coating of polymeric composition that upon heating **melts** away from the coil, which "can be coalesced, reformed or solidified in the vasculature" (Page 4). However, there is no disclosure or suggestion in Engelson that an energy emitting device located inside or outside the body could be used to heat a vaso-occlusive device to release or activate bioactive agents after the device is implanted in the body, as required in claims 1, 18 and 37. Instead, Engelson discloses heating the polymers themselves using a light emitting device located inside of a patient to reform (not activate or release) a bioactive substance that is contained in or covered by the polymers.

It is respectfully submitted that the Office Action does not set forth an adequate basis (based on evidence or scientific reasoning – ex parte Whalen) that shows how a person of ordinary skill in the relevant field would have been prompted to combine the respective teaching of Ken, Günther, Wallace and Engelson, absent hindsight in view of the claims involved in this appeal. Further as demonstrated above, even if a person skilled in the art was to consider modifying the device of Ken, in view of Günther, in further view of Wallace, and in still in further view of Engelson, the resulting device would be of an occlusion coil having a stretch resistance member with modest amount of iron (Ken), that may or may not be capable of acting as a heating member when exposed to energy transmitted by an energy emitting element located external to the patient (Günther), having an inner core covered with a polymeric fiber, wherein the

polymeric fiber covering may be used as a carrier for bioactive molecules (Wallace), in order to reform polymers to adhere to each other and stabilize a vaso-occlusive device, if the polymeric fiber is heated (Engelson). A combination of these four references will not render a device having a first material (claims 1 and 37), or having a helical wound coil comprising a highly conducted material and forming a lumen, a filament at least partially positioned in the lumen comprising a ferrous material (claim 18) wherein if the device is detached from a delivery catheter and implanted at a treatment site, may be heated (claims 1 and 37) or exposed to a pulse magnetic field (claim 18) by application of energy transmitted by an energy emitting element located external to the patient, and a bioactive agent (claims 1, 18 and 37) which, if the device is detached from a delivery catheter and implanted at a treatment site, is released (claim 1 and 18) or activated (claim 37) from the device upon heating the device by application of energy transmitted by said external energy emitting element.

As such, Appellant respectfully submits that the Examiner has not set forth a prima facie case that independent claims 1, 18 and 37, and their dependent claims 2, 3, 6-8, 10-13, 19, 25, 38, 39 and 41, are unpatentable under 35 U.S.C. §103, as being obvious over Ken, in view of Günther, in further view of Wallace, and in still in further view of Engelson.

B. Claim 42

Independent claim 42 recites a vaso-occlusive device for treating a site within a patient's vasculature, comprising a first material which, if the device has been detached from a delivery catheter and deployed at a treatment site in the patient's vasculature, may be heated by application of energy transmitted by an energy emitting element located external to the patient; and a second material having a melting or glass

transition temperature greater than body temperature, but less than a temperature reached by the device if the first material is heated by energy transmitted by the external energy emitting element, wherein the second material is embedded in one or more portions of the device, such that, if the device is detached from a delivery catheter and implanted at the treatment site when heated by energy transmitted by the external energy emitting element, and thereafter allowed to cool at the treatment site, the one or more portions are at least partially melted and fused together to thereby stabilize the vaso-occlusive device in a deployed configuration.

The above-discussed failure of the attempted combination of Ken, Günther, Wallace and Engelson to disclose every limitation required by claims 1, 18 and 37, is also applicable to claim 42, which also requires "a second material having a melting or glass transition temperature greater than body temperature, but less than a temperature reached by the device if the first material is heated", "wherein the second material is **embedded** in one or more portions of the device" and when after heated is "allowed to cool at the treatment site". None of the cited references discloses or teaches these further limitations of claim 42. Even if polymeric fiber cover or wrapping of Wallace would be considered as a second material, Wallace teaches away from an embedded "second" material **in** the device, since Wallace discloses the exact opposite, i.e., a covering or wrapping **on** the device.

Additionally, the Office Action does not identify an articulated reason or set forth an adequate basis that would have prompted a person of ordinary skill in the relevant field to combine the teachings of Ken, Günther, Wallace and Engelson in an effort to achieve the limitations of claim 42. Further, the Office Action fails to consider all the limitations of claim 42.

As such, Appellant respectfully submits that the Examiner has not set forth a prima facie case that independent claim 42, is unpatentable under 35 U.S.C. §103 as being obvious over Ken, in view of Günther, in further view of Wallace, and in still in further view of Engelson.

For at least the above reasons, Appellant submits that claims 1, 2, 3, 6-8, 10-13, 18, 19, 25, 37, 38, 39, 41 and 42, are not obvious over the combination of Ken, Günther, Wallace, and Engelson.

Respectfully submitted,
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Dated: December 2, 2008

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VIII. Claims Appendix

1. A vaso-occlusive device for treating a site within a patient's vasculature, comprising:

a first material which, if the device is detached from a delivery catheter and implanted at a treatment site in the patient's vasculature, may be heated by application of energy transmitted by an energy emitting element located external to the patient; and

a bioactive agent that, if the device is detached from a delivery catheter and implanted at a treatment site in the patient's vasculature, is released from the device into the treatment site upon heating of the device by application of energy transmitted by said external energy emitting element to heat the first material.

2. The vaso-occlusive device of claim 1, further comprising a second material having a melting or glass transition temperature greater than body temperature, but less than a temperature reached by the device when the first material is heated by the energy transmitted by the external energy emitting element.

3. The vaso-occlusive device of claim 2, wherein the second material is embedded in one or more portions of the device, such that, if the device is detached from a delivery catheter and implanted at the treatment site when heated by the energy transmitted by the external energy emitting element, and thereafter allowed to cool at the treatment site, the one or more portions are at least partially melted and fused together to thereby stabilize the vaso-occlusive device in a deployed configuration.

6. The vaso-occlusive device of claim 2, wherein said bioactive agent is released by at least partially melting said second material.

7. The vaso-occlusive device of claim 1, the first material comprising a ferrous material, and the external energy emitting element comprising a magnetic resonance system.

8. The vaso-occlusive device of claim 1, wherein the first material is embedded in the device.

10. The vaso-occlusive device of claim 1, the device comprising

a coil forming a lumen, and

a heating member disposed in the lumen, the heating member at least partially comprising the first material.

11. The vaso-occlusive device of claim 10, the heating member comprising a filament attached to first and second locations of the coil.

12. The vaso-occlusive device of claim 10, further comprising a second material having a melting or glass transition temperature greater than body temperature, but less than a temperature reached by the heating member when the first material is heated by the external energy source.

13. The vaso-occlusive device of claim 12, wherein the second material is embedded

in one or more portions of the coil, such that, if the coil is implanted at the treatment site when heated by the heating member, and thereafter allowed to cool at the treatment site, the one or more portions are at least partially melted and fused together to thereby stabilize the coil in a deployed configuration.

18. A vaso-occlusive device for treating a site within a patient's vasculature, comprising:

a helically wound coil comprising a highly conductive material and forming a lumen;

a filament at least partially positioned in the lumen, the filament comprising a ferrous material, such that, if the device is detached from a delivery catheter and implanted at a treatment site in the patient's vasculature and exposed to a pulsed magnetic field applied from an energy emitting element located outside the body, the ferrous material is heated; and

a bioactive agent that, if the device is detached from a delivery catheter and implanted at a treatment site in the patient's vasculature, is released from the device upon heating of the device by application of said pulsed magnetic field.

19. The vaso-occlusive device of claim 18, the highly conductive material comprising platinum.

25. The vaso-occlusive device of claim 18, wherein the ferrous material is embedded in the filament.

37. A vaso-occlusive device for treating a site within a patient's vasculature, comprising:

a first material which, if the device is detached from a delivery catheter and implanted at a treatment site in the patient's vasculature, may be heated by application of energy transmitted by an energy emitting element located external to the patient; and

a bioactive agent that, if the device is detached from a delivery catheter and implanted at a treatment site in the patient's vasculature, is activated upon heating of the device by application of energy transmitted by said external energy emitting element to heat the first material.

38. The vaso-occlusive device of claim 37, the first material comprising a ferrous material, and the external energy emitting element comprising a magnetic resonance system.

39. The vaso-occlusive device of claim 37, wherein the first material is embedded in the device.

41. The vaso-occlusive device of claim 37, the device comprising

a coil forming a lumen, and

a heating member disposed in the lumen, the heating member at least partially comprising the first material, the heating member comprising a filament attached to first and second locations of the coil.

42. A vaso-occlusive device for treating a site within a patient's vasculature,

comprising:

a first material which, if the device has been detached from a delivery catheter and deployed at a treatment site in the patient's vasculature, may be heated by application of energy transmitted by an energy emitting element located external to the patient; and

a second material having a melting or glass transition temperature greater than body temperature, but less than a temperature reached by the device if the first material is heated by energy transmitted by the external energy emitting element,

wherein the second material is embedded in one or more portions of the device, such that, if the device is detached from a delivery catheter and implanted at the treatment site when heated by energy transmitted by the external energy emitting element, and thereafter allowed to cool at the treatment site, the one or more portions are at least partially melted and fused together to thereby stabilize the vaso-occlusive device in a deployed configuration.

IX. Evidence Appendix

A. U.S. Patent No. 5,853,418; originally cited by the Examiner in the Office Action, dated January 25, 2006.

B. U.S. Patent No. 6,238,421; originally cited by the Examiner in the Office Action, dated January 9, 2008.

C. U.S. Patent No. 6,280,457; originally cited by the Examiner in the Office Action, dated January 9, 2007.

D. U.S. Patent No. 6,024,754; originally cited by the Examiner in the Office Action, dated January 9, 2008.

X. Related Proceedings Appendix

None.